

Labor Productivity

Past Experience and Prospects for the Future

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What Factors Will Matter for the Future? How Will They Differ from the Past?

- Changing age distribution of the adult population, and increased educational attainment
 - Implications for domestic supply of workers and demand for goods and services
- Post-industrial? Or increased innovation and automation in production in the US?
 - Physical infrastructure replacement and improvement
 - Technology—will the US lead in development and production of alternative energy, given “climate”?
 - Biotechnology: genetic-based medicine, genetic engineering, biology of aging
- Services (particularly medical) vs. goods production—aging population
 - Past innovation in farming, for example
 - Future of health care—robotics?

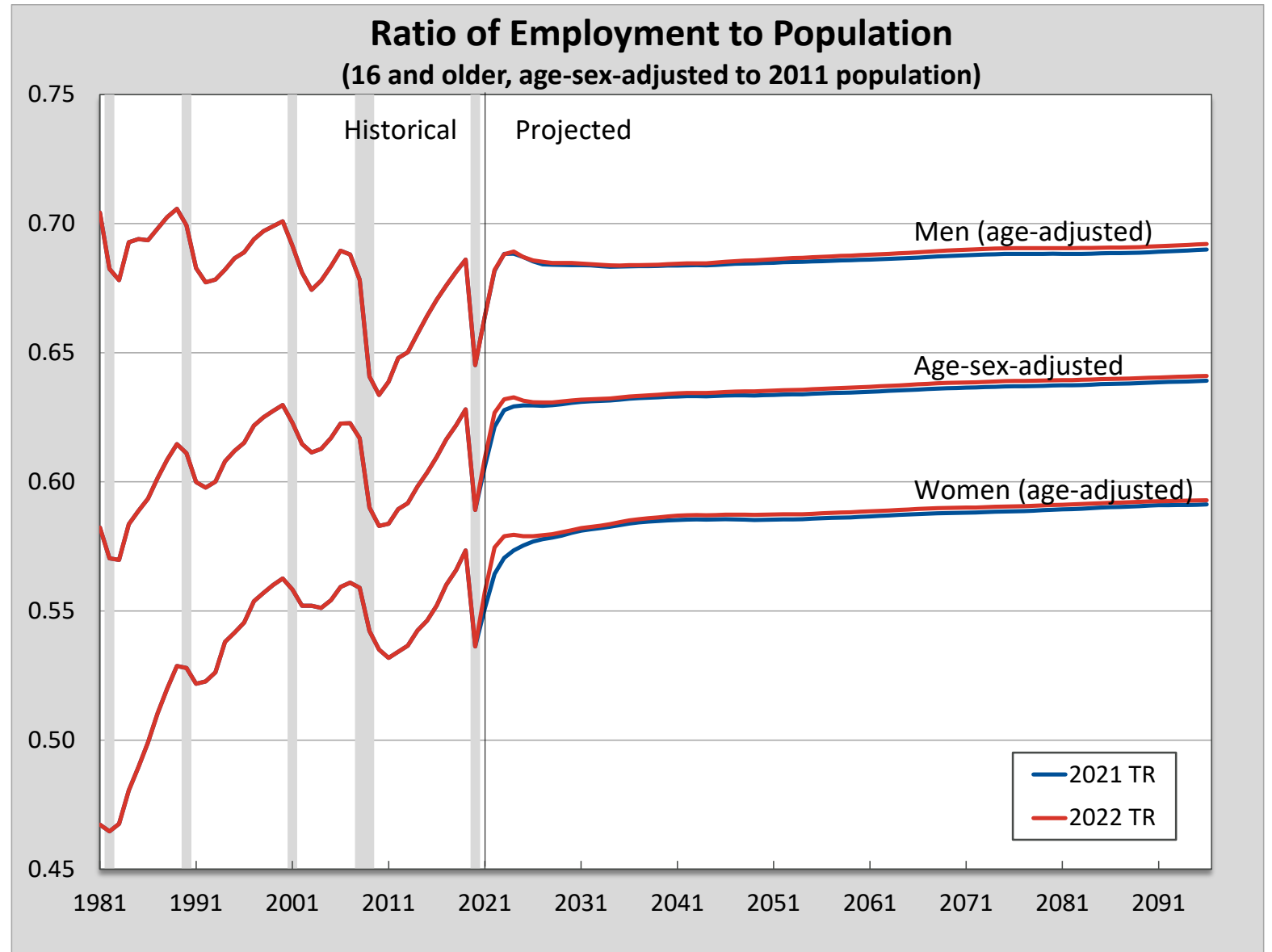
What Factors Will Matter for the Future? How Will They Differ from the Past? (cont.)

- Measurement of real growth
 - Hedonics, quality adjustment, value added from innovation credited to innovator vs. producer?
 - For example, smart phones that have taken over many functions
- Bottom line—how will this translate into real earnings for workers?
 - Critical for “standard of living”, but more specifically wage growth vs. price increase for Social Security

Ratio of Employment to Population *age adjusted*

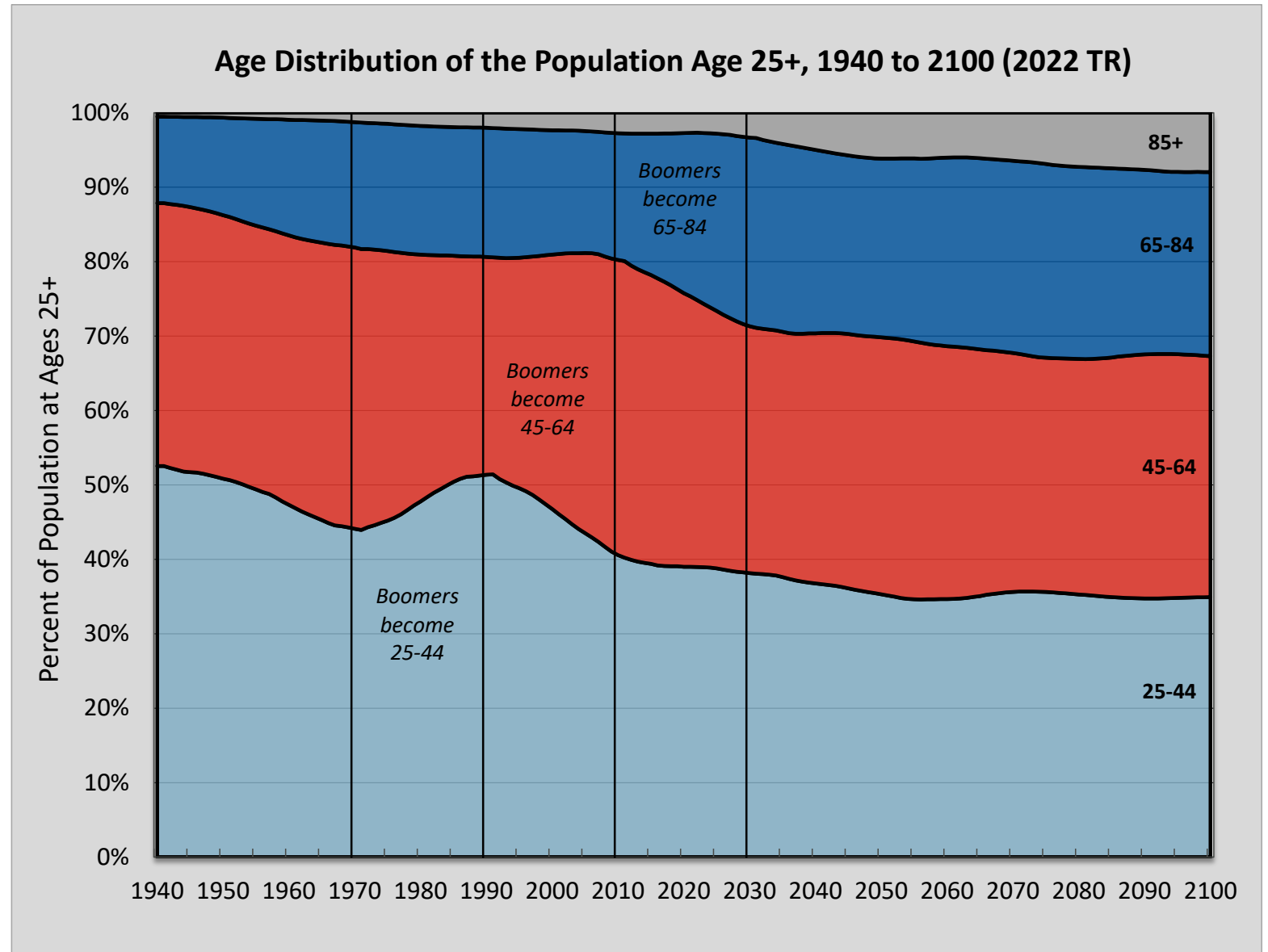
Recovered more strongly from the brief but steep recession than did LFPRs.

Projected to exceed the level seen at the peak of the last economic cycle by 2022 for women and by 2023 for men.



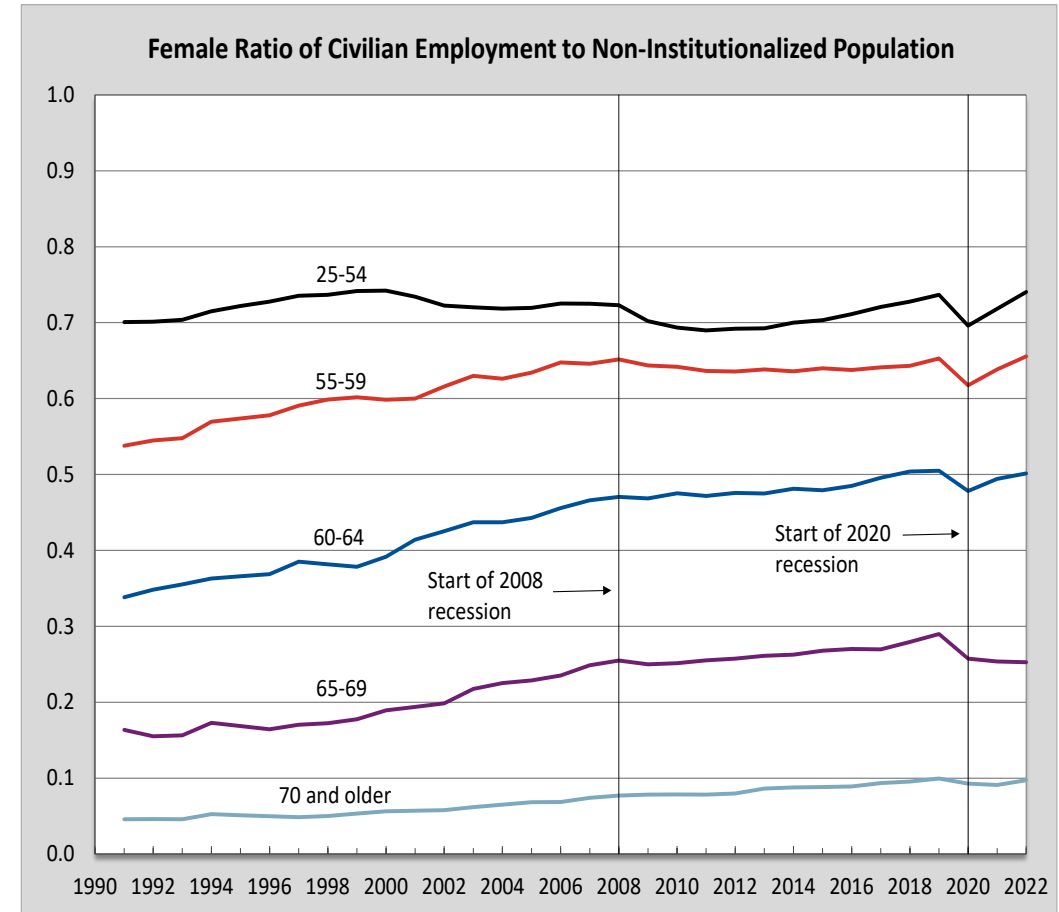
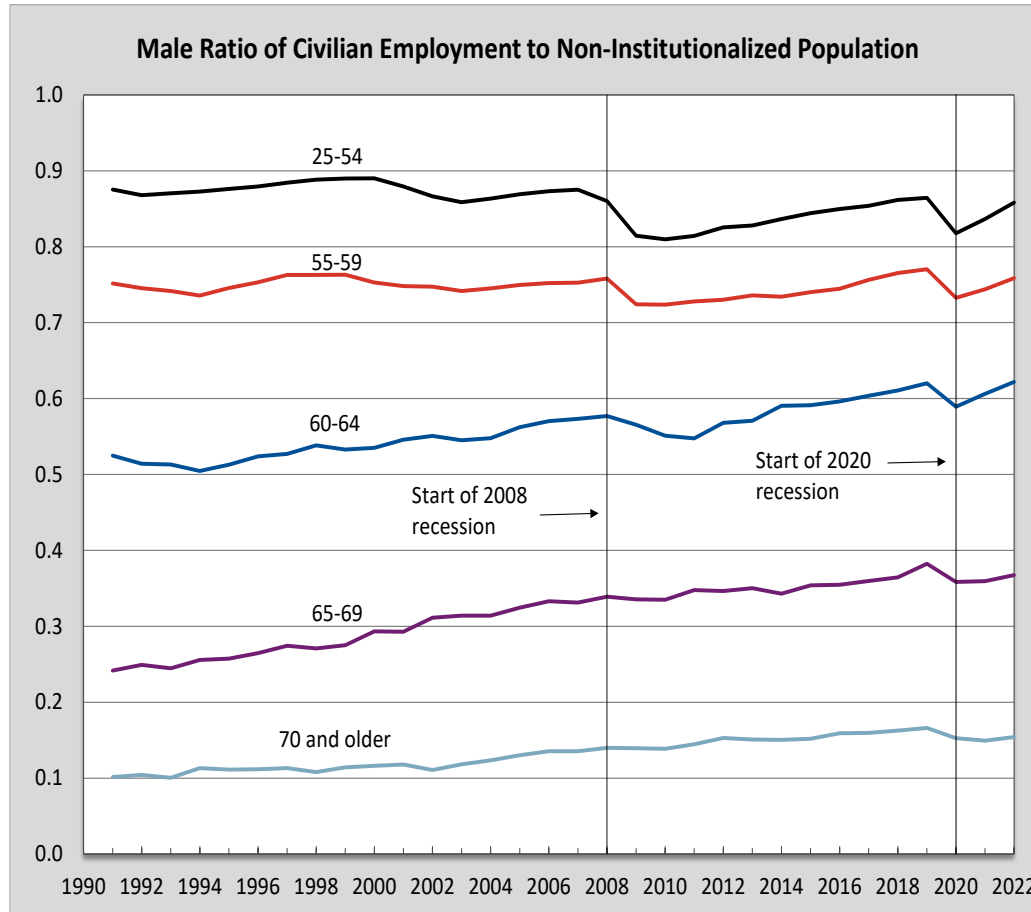
Changing Age Distribution Over Last 20 and Next 20 Years Mainly Due to Macro Aging

Permanent level shifts.



Employment Over Age 65...

Declined briefly with the 2020 recession, but is projected to continue rising. How much of this is from changing the NRA and earnings test? *Is the best retirement approach a job (Paul Samuelson)?*



Changing Nature of Work: Trends in Employment by Occupation

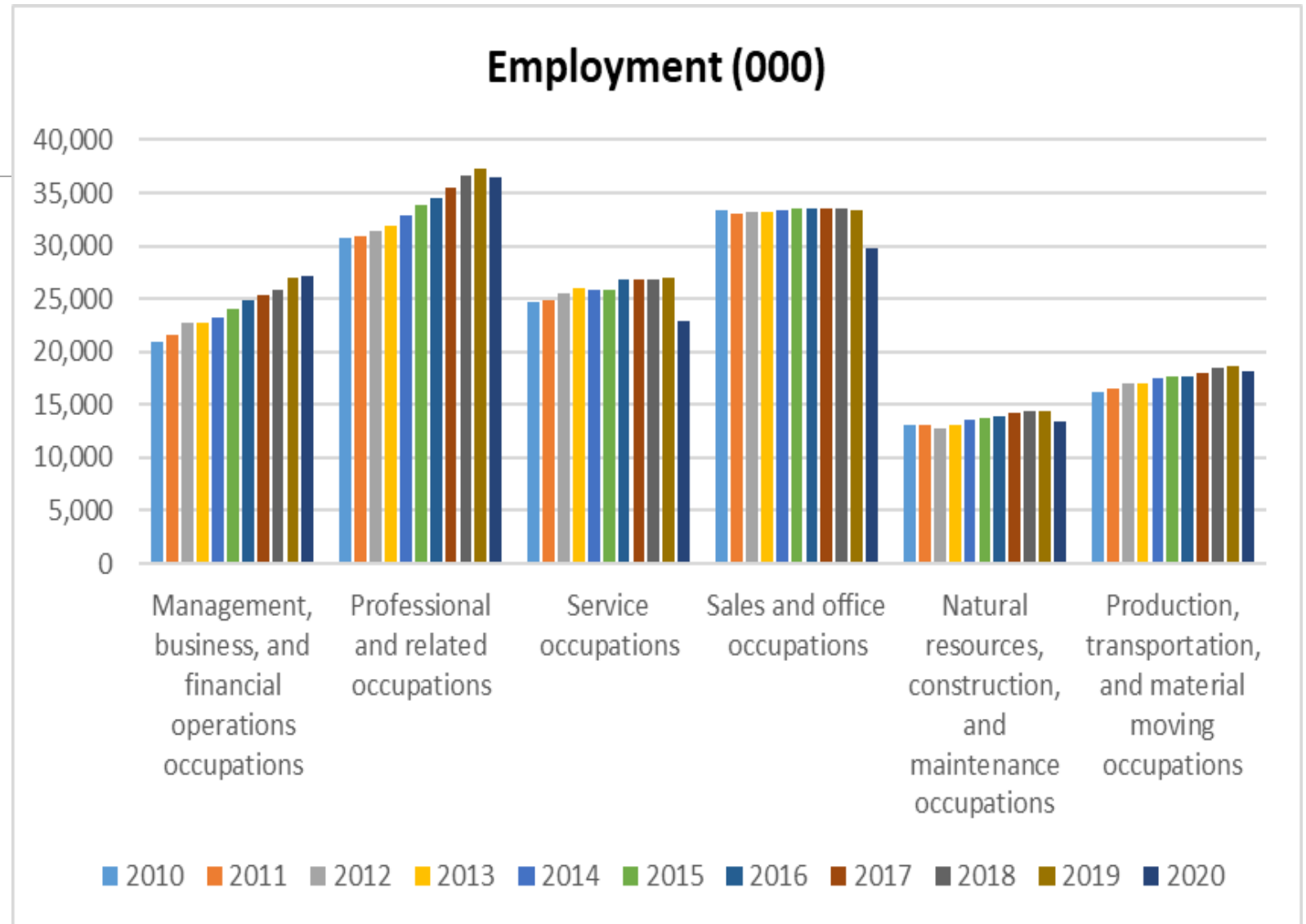
Employment effects in all areas in 2020; share for management and professional, highly paid, increased (BLS cpsaat09).

Will trends of 2010-19 return, and continue?

Will these shifts continue with technology, automation, and increasing education levels?

Might increases in infrastructure spending change these trends?

Also, changes in how job-specific tasks are performed.

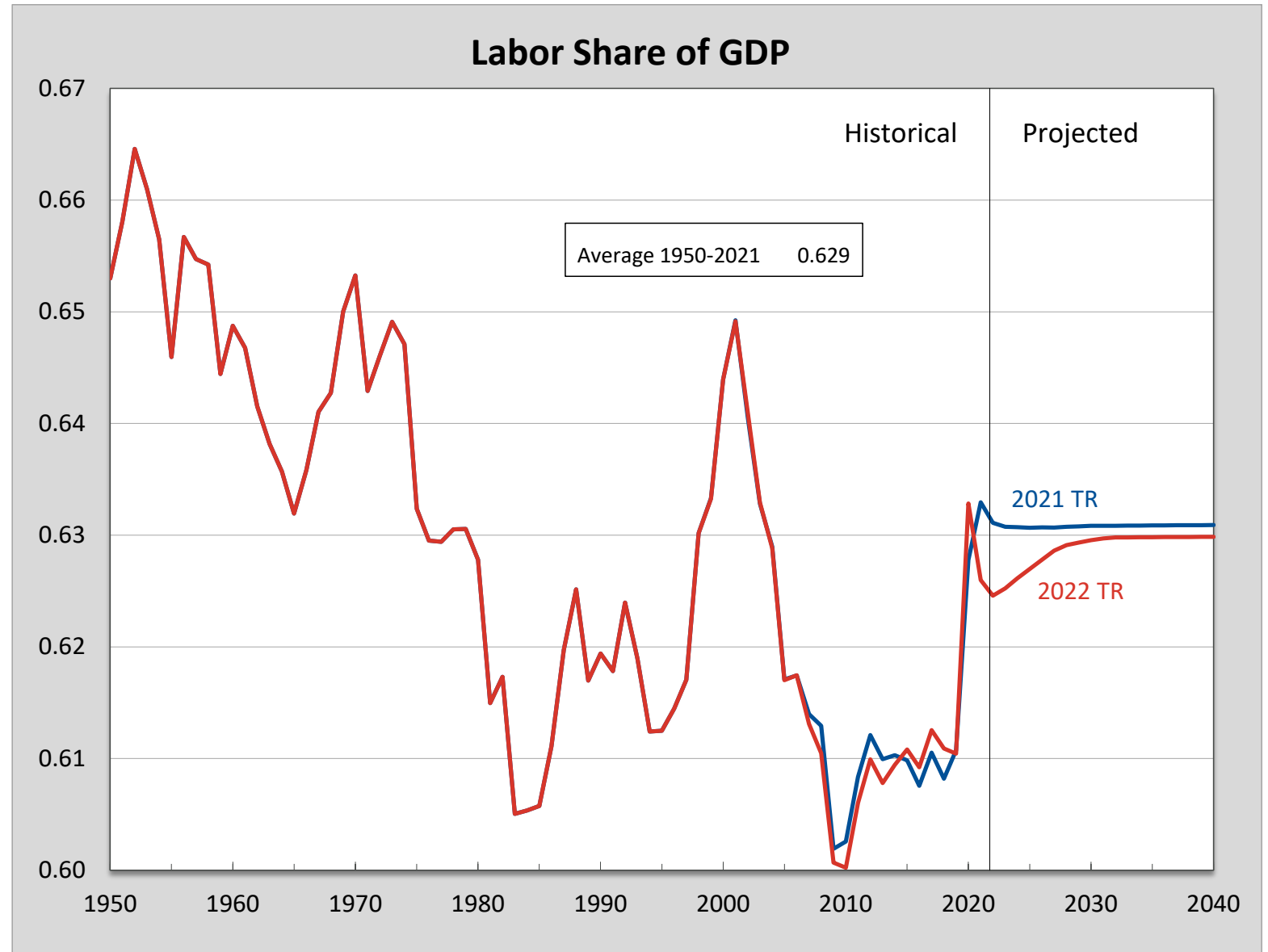


Ratio of Labor Compensation to GDP (Labor Share)

In the 2022 TR, the labor share of GDP increased to 63.3 percent in 2020, 62.6 percent in 2021 and is projected to reach approximately 63.0 percent by 2031.

The labor share of GDP decreased in 2021 because of the unusual nature of the COVID-induced recession and its aftermath. Aggregate GDP recovered rapidly, while wages remained suppressed, especially in sectors significantly impacted by the pandemic.

In the long-range, the labor share of GDP is projected to remain approximately level.

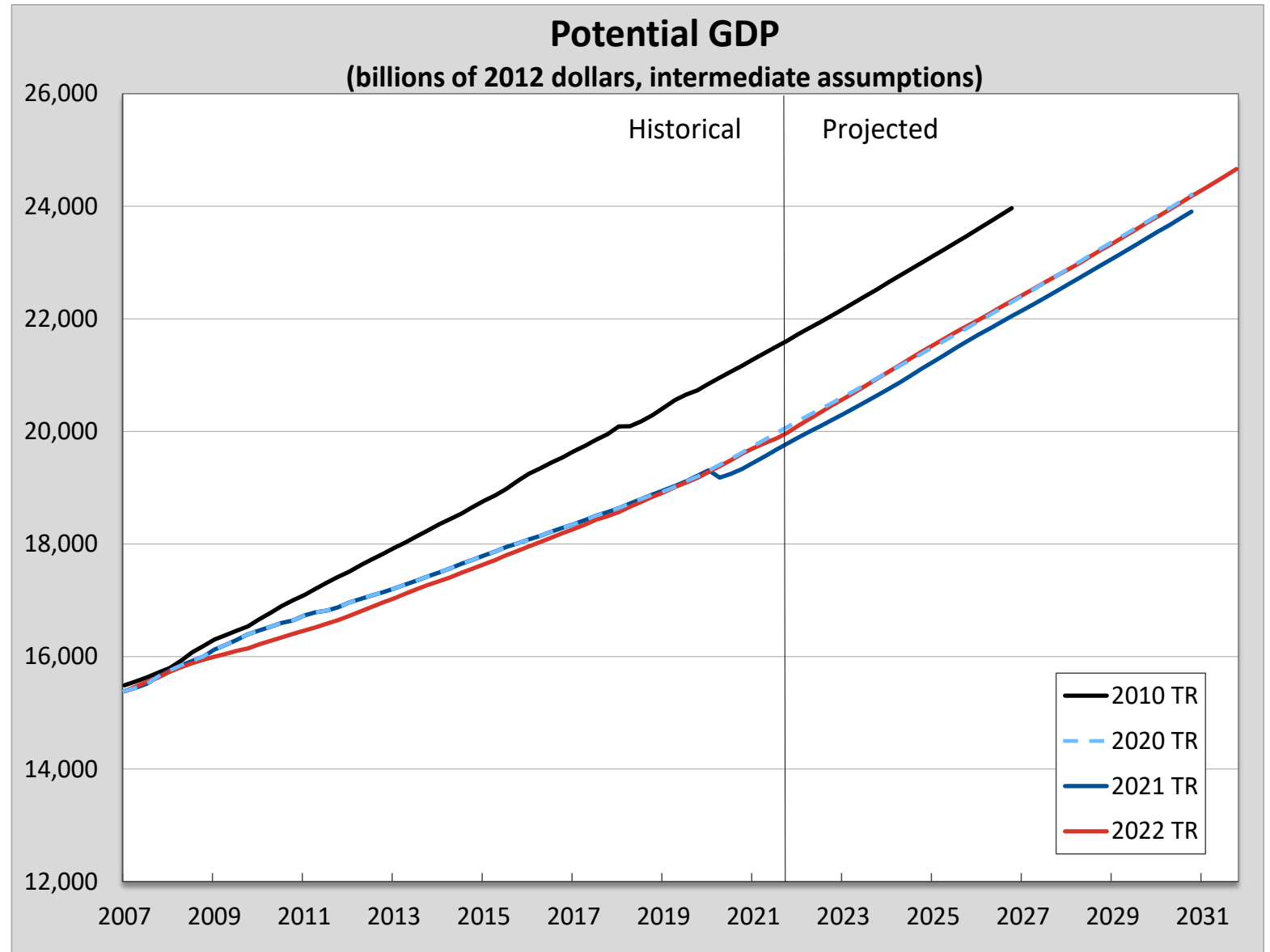


Implications of Cycles for Productivity and Potential GDP

Permanent losses in level of GDP from recessions? Or were we just projecting too much real growth?

Major correction from the 2007-09 recession.

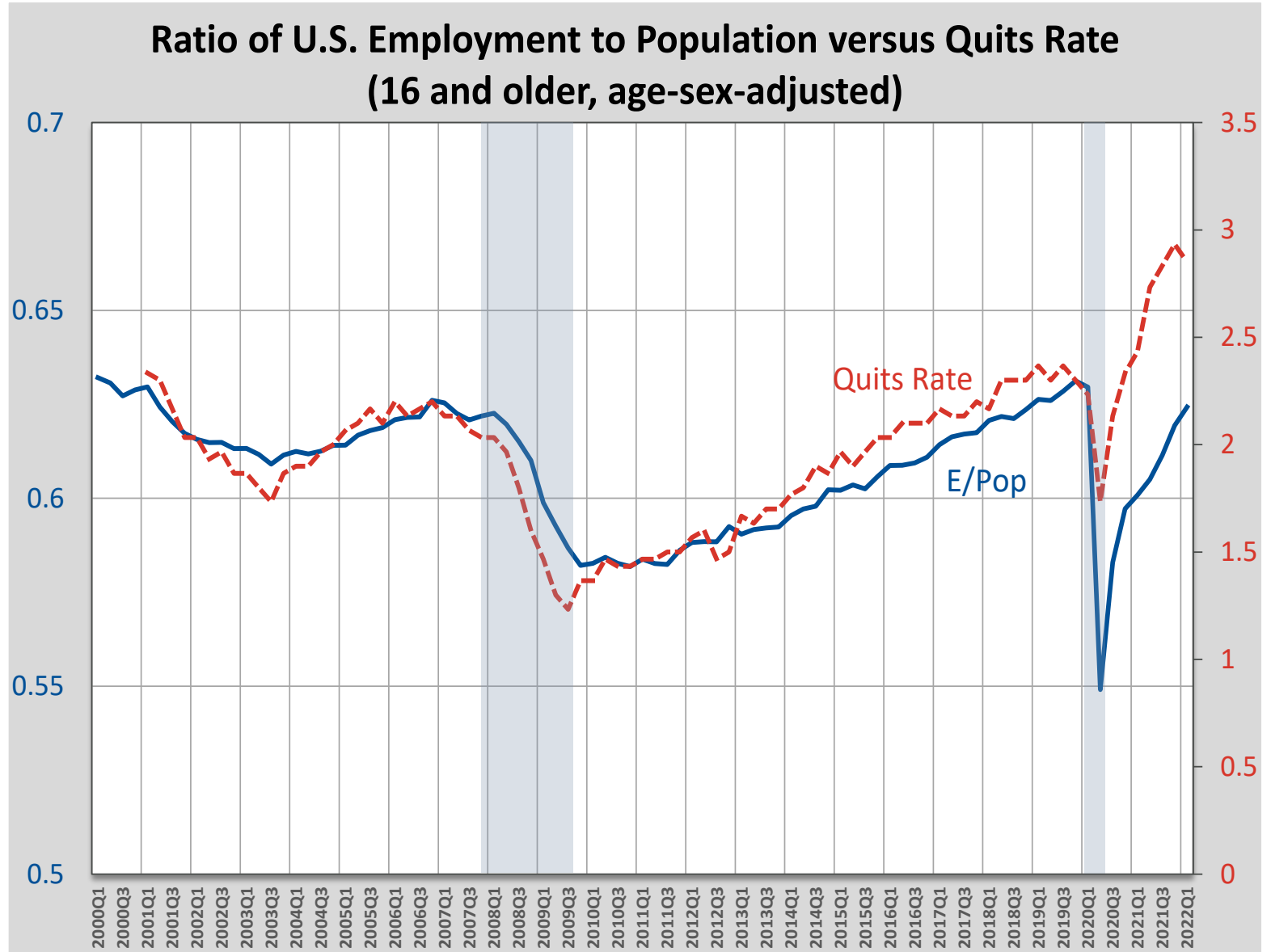
How about from the recent 2020 recession?



Ratio of Employment to Population vs. Quits Rate

Ratio of employment to population has recovered rapidly since the Trustees Report projections were developed.

Quits rate indicates a “great job churn”, and not a “great resignation”.



Labor Productivity Growth Rate

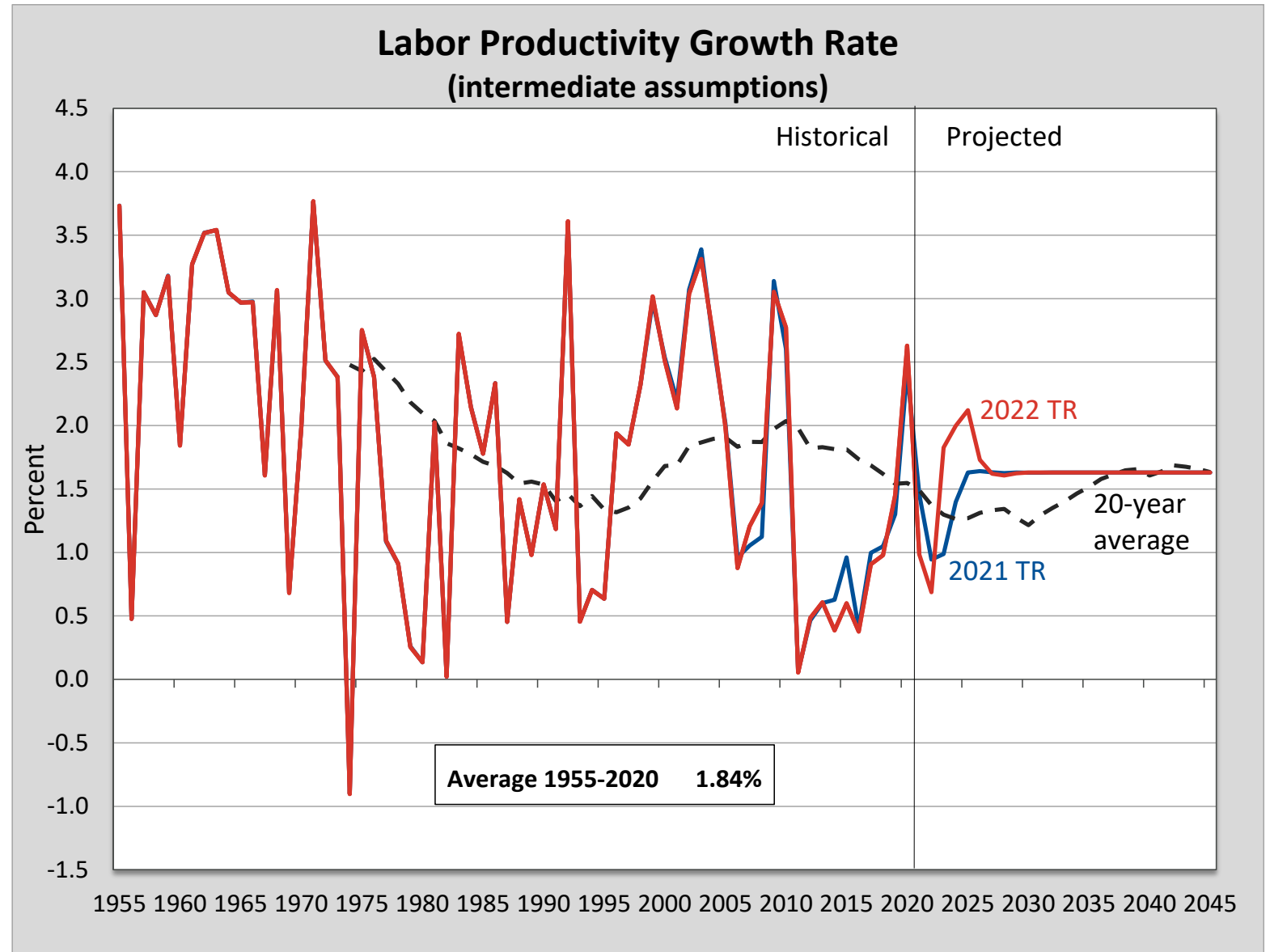
total economy

The annual growth in labor productivity in 2020 was 2.63 percent, as employment declined more than GDP during the 2020 recession.

As employment recovers, especially in the labor-intensive service industries, productivity growth is expected to slow to 0.98 percent in 2021 and 0.69 percent in 2022, per the 2022 TR intermediate assumptions.

Projected slowdown in productivity growth in the near-term is assumed to be temporary.

Ultimate annual change in labor productivity growth is unchanged from the 2021 TR at 1.63 percent.



Historical and Ultimate Assumed Annual Growth in Productivity by Component

Private Forecasters *year 10 to 30 Nonfarm Business Sector* :

IHS Markit August 2021 long run trend forecast for period from 2031 to 2051: 1.93 percent.
(*Nov 2019 forecast 1.56 percent*)

Moody's Analytics October 2021 forecast for period from 2031 to 2051: 1.90 percent.
(*Nov 2019 forecast 1.62 percent*)

Table 1.2: Historical Average Annual Rates of Increase in Total Economy Productivity and Its Components (%)

	Total Economy	Nonfarm Business	Farm	Households	Nonprofit Institutions	General Government
Long-Term Historical Averages: ^a						
1954-2019 (65 years)	1.83	2.04	4.14	3.70	0.52	0.24
1969-2019 (50 years)	1.58	1.86	3.77	3.21	0.28	0.13
1969-1994 (25 years)	1.54	1.71	4.76	4.23	0.46	0.30
1994-2019 (25 years)	1.62	2.02	2.78	2.20	0.11	-0.04
By Economic Cycle:						
1969-1973	2.66	2.99	4.35	7.03	1.32	0.43
1973-1979	1.07	1.25	3.91	3.06	0.36	-0.44
1979-1990	1.41	1.50	6.03	3.23	0.32	0.69
1990-2001	1.85	2.26	3.98	6.26	-0.25	-0.26
2001-2007	2.18	2.62	3.90	0.71	0.41	0.23
2007-2019	1.08	1.40	1.22	0.56	0.30	0.12
2019-2020 (incomplete cycle)	2.59	2.36	20.96	31.74	0.83	2.96
By Multiple Complete Cycles:						
Last Six: 1969-2019 (50 years)	1.58	1.86	3.77	3.21	0.28	0.13
Last Five: 1973-2019 (46 years)	1.49	1.77	3.72	2.89	0.19	0.11
Last Four: 1979-2019 (40 years)	1.55	1.84	3.69	2.86	0.17	0.19
Last Three: 1990-2019 (29 years)	1.60	1.98	2.82	2.72	0.11	0.00
Last Two: 2001-2019 (18 years)	1.45	1.80	2.11	0.61	0.34	0.15
2022 Trustees Report Ultimate Assumption	1.63	2.00	2.00	1.63	0.00	0.00

Future Course

- Will ultimate growth in total economy labor productivity average 1.63 percent per the Trustees' intermediate assumptions?
- With ultimate growth in NFB productivity at around 2.00 percent?